

Response of the Ameren Illinois Companies to the Illinois Energy Solutions Questions for Interested Parties

Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a AmerenIP (collectively the Ameren Companies) appreciate the opportunity to comment on actions they are or anticipate taking to educate customers with respect to their electric rates, Post 2006. The Companies also appreciate the opportunity to respond to the questions raised by Chairman Box in his June 29, 2006, request for comment.

The Ameren Companies have been, and will continue to be, proactive in providing information to and educating customers, employees, and other interested parties regarding the upcoming end of the transition period, the potential impacts of rates that will become effective on January 2, 2007, and measures which customers can take to reduce energy consumption. The Ameren Companies are utilizing various communication channels, including but not limited to posting information on a dedicated Web site (www.post2006.com), issuing press releases, meeting with key public officials and leaders, posting tips on how to save energy on Ameren's corporate Web site, and including inserts in customers' bills, to communicate information on the future of electricity.

The Ameren Companies are actively researching developing technologies that could assist customers in the management of their energy consumption. One initiative which Ameren is undertaking in Illinois and which may provide information to customers regarding their energy use on a more timely basis is the roll out of automated meter reading (AMR). Further, the Ameren Companies look forward to participating in the development of rules to address energy efficiency, demand response programs, and renewable energy programs.

The Ameren Companies throughout these comments discuss the potential for various programs or initiatives that could benefit customers.

Short-term solutions

Consumer Education

- 1. What types of programs could be introduced in Illinois to provide consumers the tools and information they need to better monitor, manage and control their electricity consumption and thus their energy bills? How should the success of these programs be measured?**

Energy educational programs that could be introduced or could be continued include:

- Research to determine awareness of the issues and to test the effectiveness of conservation and educational messages
- Online energy audits and extensive Web-based educational materials
- Outreach to media to encourage coverage of consumer issues and conservation
- Outreach to social service organizations and municipal, state, and county officials to help them provide help to the most at-risk populations – providing brochures, videotapes and other educational materials
- Bill messages and inserts
- Advertising/mass marketing messages

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As mentioned in the introductory remarks, the use of AMR technology could facilitate the transmittal of usage information to residential customers on a timelier basis. Commercial customers can now purchase services that provide more detailed and timelier views of the customer's load as compared to what is provided on the customer's monthly billing statement.

2. What role should the various stakeholders take in educating consumers? What should that level of effort be?

- a. Commission**
 - b. Utility companies**
 - c. State of Illinois**
 - d. CUB and other consumer interest groups**
 - e. Others**
- a. The Commission should encourage communications related to programs that help customers better monitor, manage and control their electricity consumption.
 - b. Utility companies should use existing channels to reach the customer base. The utilities should play an important role as a trusted provider of information.
 - c. The State of Illinois should communicate the availability of statewide programs and incentives to help energy consumers better monitor, manage and control their electricity consumption.
 - d. CUB and other consumer interest groups should complement Commission, utility and state communication efforts that encourage efficient use of energy.
 - e. Others: Alternative Retail Electric Suppliers should complement Commission, utility and state communication efforts that encourage efficient use of energy.

3. The Commission is considering initiating a workshop process to provide interested parties with the opportunity to provide input on how educational material should be designed, what topics should be covered and how the materials should be disseminated. Is there value in such a workshop and what specific issues should be addressed? Please explain.

Workshops can be an effective approach, if they are done at an accelerated pace, in preparing for this upcoming heating season and the ending of the electric transition process.

4. What short-term education efforts are being planned in response to the ComEd rate stabilization docket (06-0411) and the Ameren securitization (06-0448) docket?

The Ameren Companies have limited their efforts to discussions with key legislative and community leaders, editorial board meetings with news organizations, development of Web site materials for a dedicated Web site (www.post2006.com), education of company employees who are connected to the communities they serve and to the customer base, bill inserts and messages that encourage customers to visit the dedicated Web site. In addition, radio and print advertising is in the planning stages to share energy conservation tips across the Ameren Company service areas. Earlier advertising initiatives focused on getting the message out that prices for electricity are likely to rise with the end of the rate freeze.

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5. Who should take the lead role in promoting the education effort? Please explain.

Every stakeholder has a role in promoting the education effort. For the specific roles of each stakeholder, refer to the response to Question No. 2 of this subsection.

6. What programs have other states undertaken to educate consumers on how to deal with high energy bills? How successful are these programs? How is success measured? Which programs are applicable to Illinois?

There is a considerable body of customer education resources on how to deal with higher energy bills available to customers in Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania, and Vermont. Resources included energy efficiency and conservation measures, discussions of higher energy prices, etc. The most common communication method appears to be public service commission websites, consumer advocate websites and utility websites. The information on the websites also mentions outreach methods using energy fairs and other community-based programs.

No formal assessments as to the success of these informational programs were found, nor whether any bodies of such research or studies exist. If such studies are found, these comments will be supplemented. It seems that similar such informational programs would also be beneficial for Illinois consumers.

Over 100 utilities across North America, including AmerenUE have found that educating their customers through an on-line energy audit tool, which incorporates actual usage and living and weather patterns, will help the customers better manage their energy use. Traditional energy efficiency programs such as in-home audits and rebates still have their place, but they are expensive and do little to change the way the customers understand their energy usage patterns.

Offering a tool like this gives the customers a sense of control over their energy use and is one way of enhancing relationships and changing the perception of the role of the energy company. The on-line package is a highly graphical, interactive set of tools that provides immediate and continuing feedback. It represents a personalized on-line customer energy center that customers can return to in order to get their energy management questions answered. It is designed to be part of web customer service and on-line bill presentment, so that customers going on-line to view, pay, or get answers about their bill can then drill down to find ways to better manage their bills.

Education is all about customer communications, which can be conducted on-line, via e-mail and through other channels. One of the issues facing many utilities implementing demand-side management and critical peak pricing programs is how to get customers – particularly mass market customers – to respond to price and other signals. The keys are: a) finding the customers who are likely to have the most significant impacts and b) effectively communicating with customers about what their options are and how much impact these options will have. This tool identifies these customers and provides a means to communicate with them. The result is an educated consumer.

The Ameren Companies are considering a similar program for their Illinois customers.

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7. What programs have been or are being implemented in other states to mitigate rising energy costs?

Aside from rate phase-in plans, conservation measures, and the provision of tips on efficient energy usage, real-time pricing programs are commonly recommended as one response to rising energy costs because of their ability to send real-time pricing signals to consumers to encourage a change in energy-use patterns.

8. Describe any education efforts associated with demand response, energy efficiency, real-time pricing, LIHEAP and the impending rate increases that are planned or currently underway. Provide all documents associated with the education efforts.

Ameren is in the evaluation stages to determine whether to offer an on-line energy audit tool, as described in the answer to question 6, to the customers in Illinois. Significant dollars and time are required to integrate the tool into the existing customer information system.

Ameren and The Center for Neighborhood Technology (CNT) and its affiliate, the Community Energy Cooperative, have signed an agreement to complete a project titled “Re-energizing Illinois: Building Real Demand for Energy Efficiency.” In summary, the project will:

... address a set of research questions about the impacts of real-time electricity pricing on consumer behavior.

...build on our [CNT] past experience running innovative consumer-focused energy programs. It will provide new data, information, measures, and messages that will allow Illinois stakeholders – ranging from utilities, to the ICC, to consumers – to understand and evaluate the role of real-time pricing in the changing energy market.

... also inform of the development of programs that use price signals as a means for creating real energy efficiency and demand reductions by residential consumers.

9. How well can residential customers get information on their power use in a timeframe in which they can change their behavior? How can this be improved?

Customers of Ameren Companies have access to usage data both on their monthly statements and when logging into their account data on the Web site. Customers can track usage history with these tools. As an improvement opportunity, IDCs could encourage customers to purchase tools that allow them to monitor usage of individual appliances.

10. Tell us about existing demand response programs available to electric utility customers in Illinois.

- a. How do they work?**
- b. Who is eligible to participate?**
- c. How does one enroll?**
- d. What are the terms and conditions?**

Currently, all of the Ameren Illinois customers have access to rates which provide peak load pricing or real time pricing options. Terms and conditions are set forth in the various rates. Further, the Ameren Companies look forward to participating in the recently-opened

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rulemakings that will address energy efficiency, sustainable energy programs, and demand response programs.

11. Tell us about existing energy efficiency programs available to electric utility customers in Illinois.

- a. How do they work?**
- b. Who is eligible to participate?**
- c. How does one enroll?**
- d. What are the terms and conditions?**

Ameren has a long partnership arrangement with the Illinois Department of Commerce and Economic Opportunity (DCEO). Through the approved Supplemental Customer Charge tariff, Ameren collects funds from all customers on a monthly basis through a non-intrusive method on the electric utility bill. These funds are small on an individual basis, but are sizable when combined over time. The funds are then transferred to DCEO where they administer programs across the entire state and customer classes. With the additional marketing support from Ameren, DCEO has successfully run programs such as Building Operator Certification training, Manufacturing Energy Efficiency Program, Small Business Smart Energy Program and the residential Change A Light rebate program. DCEO and Ameren belong to common non-profit organizations which focus on energy efficiency. In these organizations such as the Midwest Energy Efficiency Alliance and the Association of Professionals Energy Consultants, Ameren collaborates with DCEO and other energy-related parties about energy efficiency issues and techniques. Ameren and DCEO have sitting members on the board of directors of the Midwest Energy Efficiency Alliance.

12. What is the marginal cost of air conditioning load during the summer months (June, July, and August)?

- a. How does that marginal cost vary over a day?**
- b. How do we convey that cost information to consumers?**
- c. What tools do they need to respond to those cost signals?**

For customers electing real-time pricing from one of the Ameren Companies, the marginal cost of air conditioning load during the summer months, beginning in 2007, will be the locational marginal price (LMP). The LMP is typically higher during daytime hours than during the night. Customers receiving electric supply service from the Ameren Companies and who do not elect real time pricing will receive service on a rate with fixed pricing which is currently being established. Rates beginning in 2007 for customers on a fixed-pricing service will vary by time of day and by season for those customers whose demand exceeds 150 kW.

See also the response to Question No. 1 of the *Demand Response* subsection regarding the Ameren's residential real time pricing Energy Smart Program (ESP) proposal.

13. Given the short timeframe, what role can digital technology play in enabling consumers to change their behavior? What digital technologies exist that may be implemented in the short-term?

Digital technologies that could potentially be implemented in the short-term include the usage of smart meters and the provision of hourly prices to real-time-pricing customers via the internet.

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Low-income Consumer Assistance

1. What impact will higher electricity prices have on various income groups?

a. What will the overall impact be on households? Small businesses?

As the price for gasoline has increased substantially in the past year, and as the cost of other commodities has also increased over the years, consumers will need to manage these expenses as well as the increased cost for electricity in a manner consistent with the level of their incomes. Notably, residential electric rates have been frozen or reduced for ten years, and in the case of the Ameren Companies, electric bundled rates were last set fifteen to twenty-five years ago. It stands to reason that change in their electric bills will cause many consumers to look for opportunities to mitigate the effect of the price increases. This may be accomplished in a variety of ways as discussed elsewhere in these comments.

2. Tell us about LIHEAP.

a. How much money is available?

b. Who is eligible to participate?

c. Will there be more LIHEAP funds available to coincide with the impending rate increases?

d. What efforts are underway at the state and federal levels to increase LIHEAP funding for low-income customers served by Illinois electric utilities?

e. How does one go about applying for LIHEAP funds?

i. Can the process be streamlined? Explain.

a. The State of Illinois had \$204 million available for LIHEAP assistance for the 2006 program year. This was comprised of Federal LIHEAP funding, State Supplemental Low-Income Energy Assistance funding, and Federal Supplemental LIHEAP funding.

b. Low-income customers who are at or below 150 percent of the Federal poverty guidelines are eligible to participate in the LIHEAP.

c. The level of LIHEAP funding is primarily dependent upon Federal appropriations for the U.S. Dept. of Health and Human Services. Therefore, it is unknown at this time whether the level of LIHEAP funding will be at an increased level to coincide with impending rate increases.

d. At the Federal level, utility industry trade groups such as the Edison Electric Institute (EEI) and the American Gas Association (AGA) lobby members of Congress to increase the Federal appropriation for LIHEAP funding for the U.S. Dept. of Health and Human Services.

At the State level, the passage of Senate Bill 2030 (formerly HB 466) in the 2006 spring legislative session provides for the gas revenue taxes paid by LIHEAP customers into the General Revenue Fund to be transferred to the Supplemental Low-Income Energy Assistance Fund. This will generate approximately \$5 million in additional LIHEAP funds per year.

e. The Illinois Department of Healthcare and Family Services (HFS) administers the LIHEAP through the network of 35 community action agencies located throughout the State, of which 27 of these agencies are located within the Ameren service territory. An individual can apply for LIHEAP funds by making an appointment for an application at

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any of the numerous outreach offices these agencies provide throughout the State. The individual will be required to provide proof of household income.

The agency will make a determination as to whether the individual is eligible for a LIHEAP grant, usually within 30 days. If eligible, the utility is notified via the State's electronic system, LIHEAP.net, and a pledge is posted on the individual's utility account. Actual payment to the utility is not received until several months later.

- i. From Ameren's perspective, the current LIHEAP process works well, and automated improvements over the last couple of years made by the Illinois Department of Healthcare and Family Services (HFS) through the LIHEAP.net system have streamlined the pledge notification process to utilities. Additionally, the infrastructure that is in place with the community action agency network has provided Ameren's low income customers tremendous support, not only with bill payment assistance but with other social service programs since these agencies are the gateway to other such programs offered in the Ameren service communities. One area where improvement can be made is in the State's remittance of LIHEAP pledge obligations to utilities. While the annual vendor agreement utilities sign with HFS obligates HFS to remit payment within 45 days of pledge notification, in Ameren's experience, payments many times are not received until well after 90 days and beyond. Perhaps electronic transmission of payment could eliminate some of this delay and streamline payment processing.

3. **According to survey information released by the Bureau of Labor Statistics, lower-income households currently pay a disproportionately higher percentage of their income for electricity. How can this be mitigated going forward?**
 - a. **Should special programs be implemented to alleviate the impact of price increases? Why or why not?**
 - b. **If yes, what should those programs be?**
 - c. **What role is there for low-income targeted installation of technologies, e.g., programmable thermostats, price-responsive appliances, digital meters, etc.?**
 - d. **Would low-interest loans for homeowner insulation, energy-efficient appliances, etc. be worthwhile? Please explain.**

Ameren is sympathetic to low-income customers who are unable to pay their bills and, as such, sponsors and promotes internal assistance programs such as Dollar More and Warm Neighbors. These programs, however, are not enough, and the plight of low-income utility customers who have difficulty paying their energy bills is a complicated public policy issue and should be dealt with effectively at the Federal and State levels. Just as the government has addressed food as being "essential" through food stamp programs and health care through various programs, if utility service is also determined to be "essential," then the role of government should be to take responsibility for addressing this issue as well. Ameren does not have the authority or expertise to engage in social engineering to solve such a complex social issue.

- a. Ameren believes that government-sponsored programs should be implemented, not to only alleviate the impact of price increases, but to make energy affordable for the low-income household.

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The Ameren operating companies have extensive experience with low income weatherization programs. Evaluations of these types of programs suggest that the costs of running the programs are relatively high for the load impacts received. However, they may produce other social benefits that justify their funding through public benefits type funds.

The Ameren Companies have filed a petition with the Commission, advocating a rate phase in and securitization plan for all residential customers (the Plan). The Plan will require enabling legislation. The Plan will allow for the deferral of power supply expenses, thus mitigating the initial rate impact to these customers.

- b. The Illinois utilities proactively designed a percent-of-income payment plan (PIPP) pilot which has been presented to the Illinois Department of Healthcare and Family Services for consideration. Under this pilot proposal, a low-income household would be placed on a monthly budget billing program with the utility. The household would be required to pay a percentage of their income toward utility service, with the difference being paid by LIHEAP funding. Pre-existing arrears would be paid over a five-year period by small, monthly payments from the customer and LIHEAP funding.
- c. There is certainly a role that technologies can play in reducing energy usage to make it more affordable for the low-income household; however, the lack of income appears to be the primary reason why low-income households pay a disproportionately higher percentage of their income toward utility bills and not high usage.

It may be inappropriate to consider technology options for the low income target population if the root cause of high energy consumption is related to building shell issues, i.e., broken windows, other air infiltration openings, little or no insulation etc.

- d. Ameren believes low-interest homeowner loans are worthwhile and, in fact, partners with the U.S. Dept. of Agriculture to offer low-interest home repair and rehabilitation loans for low-income rural customers. The loans are available to low-income homeowners in rural towns with populations of 20,000 residents or smaller. Low-income homeowners can borrow up to \$20,000 at 1% interest for repairs and improvements including energy conservation measures such as insulation and storm windows, repair or replacement of heating systems and electrical wiring, and structural improvements such as repair or replacement of the roof or severely deteriorated siding.
- 4. Will the existing energy assistance programs (e.g., LIHEAP) be sufficient to help offset the additional costs incurred by low-income consumers?**
- a. Should additional funding be sought to help low-income consumers?**
 - b. If so, what is the best way to use those funds, e.g. bill assistance programs, weatherization, digital thermostats, metering, price-responsive appliances, etc.?**

It is difficult to say if the existing LIHEAP will be sufficient to help offset the additional costs incurred by low-income consumers. Illinois received \$204 million in LIHEAP funding for the 2006 program year compared to \$147 million in 2005. This additional funding in 2006 has allowed the Dept. of Healthcare and Family Services (HFS) to provide additional (supplemental) grants to previous LIHEAP recipients, earmark funds for a summer cooling assistance program, and set aside funds for the start-up of next year's LIHEAP. If the funding level for 2007 is maintained at the 2006 level, it is possible funding will be sufficient if supplemental payments, cooling assistance, and start-up allocations are eliminated.

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Regardless of the funding level, HFS will need to adjust the grant payment matrix so that individuals receiving a LIHEAP grant for electric service, whether a primary grant for electric heat or a secondary grant for general electric service, receive a larger grant amount to reflect the increase in electric costs.

- a. Ameren believes all available Federal funding to help low-income customers should be pursued. In fact, Ameren will be partnering with the Dept. of Healthcare and Family Services (HFS) and the Illinois Valley Economic Development Corp. in seeking a federal REACH grant to provide budget counseling, energy conservation, and one-on-one case management for low-income households at the highest risk of payment failure with the goal of improved bill payment and energy self-sufficiency.

At the State level, Ameren supports the continuation of the meter surcharge Energy Assistance Charge for the Supplemental Low-Income Energy Assistance Fund beyond the 2007 sunset date.

- b. Ameren believes the percent-of-income payment plan (PIPP) pilot proposed by the utilities in the State should be piloted to test the concept that utility service can be affordable for low-income customers if it is based on a percentage of an individual's household income on a year-round basis. The pilot also attempts to promote regular monthly bill payment and put an end to the cycle of disconnection and reconnection. The pilot also will allow the Dept. of Healthcare and Family Services to target those households with the greatest energy usage for weatherization programs offered by the Department, thus offering a more holistic approach to making energy more affordable for the low-income customer. The data learned from the pilot will be valuable in developing more comprehensive low-income strategies within the State.

Longer-term solutions

Consumer Education

1. **What is the best way to convey to consumers that they have the ability to control their electricity bill, for example by reducing peak load consumption?**
 - a. **How can this change in behavior be institutionalized?**
 - b. **Should financial incentives be given to customers to reduce their peak load consumption?**
 - c. **How should the information about hourly prices be conveyed to consumers? Who should be responsible for providing that information? Can this information be easily provided? Why or why not?**

Customers have the ability to manage the magnitude of their electric bills through conservation, defined as accepting less comfort by using less electricity; energy efficiency, defined as investing in energy efficient appliances thereby achieving the same or better levels of comfort while consuming less electricity; and by switching consumption to lower-priced periods if customers have time-differentiated rate options.

Research has shown that when given pricing options along with information and education on how to consider if pricing options may be cost effective, customers prefer choice and control over uninformed energy consumption. Price is powerful information. Knowledge of the cost of energy leads to knowledge of energy consumption options. Knowledge of energy options leads to responsible energy consumption behavior.

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There is not a single “best way” to convey this information to customers. Clearly customers can be segmented by class and consumption. Specific mass media, bill inserts, and web-based programs designed to inform and educate customers can be developed for each segment. Customer historical billing information can be leveraged with hourly load research data to provide powerful information to customers to assist them in their analysis of options to consider in managing their electric bills. One further note, there may be potential to mitigate costs associated with mass media information and education campaigns by standardizing campaigns for all Illinois IOUs.

Ameren’s preferred approach is to promote education, information and responsibility (i.e., stewardship of natural resources) over financial incentives. Given the necessary information, customers should be depended upon to make energy consumption decisions that are appropriate for them.

Financial incentives usually represent a subsidy from non-participants to participants. The theory is that the subsidy issue is a short-term attempt at a solution. Long term the theory is that all customers may benefit if reduction in peak load consumption helps avoid or defer investments in new power plants.

Ameren recognizes that there may be peak-load reduction initiatives where the offering of financial incentives is warranted. If so, Ameren is certainly willing to consider financial incentives. In general, however, Ameren’s preferred approach to encourage customers to consider reduction of peak-load consumption is to promote customer education, information, and responsibility.

2. What education programs are being implemented in other states to inform consumers about the long-term impact of programs designed to mitigate rising energy costs?

The following link compiled by EEI’s Survey of EEI Member Company DSM Programs, contains a list of DSM programs by state along with information supplied by some of the utility to educate consumers on electric prices etc.

http://www.eei.org/industry_issues/retail_services_and_delivery/wise_energy_use/programs_and_incentives/progs.pdf

3. What long-term education efforts are being planned in response to the ComEd rate stabilization docket (06-0411) and the Ameren securitization (06-0448) docket?

The Ameren Companies have limited their initial efforts to discussions with key legislative and community leaders, editorial board meetings with news organizations, development of Web site materials for a dedicated Web site (www.post2006.com), education of company employees who are connected to the communities they serve and to the customer base, bill inserts and messages that encourage customers to visit the dedicated Web site. In addition, radio and print advertising is in the planning stages to share energy conservation tips across Ameren utility company service areas. Additional longer term education efforts are also in the early planning stages.

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Demand Response

1. What is the best way to incent customers to reduce peak-load consumption? Please explain.

As stated in prior responses, there is not a single “best way” to incent customers to reduce peak load consumption. There are, however, basic business principles which will serve to encourage customers to consider how best to manage their energy consumption. Be straightforward in presenting information to customers. Provide balanced information fully describing any benefits and risks that may be associated with options to reduce peak load consumption. Treat customers fairly and transparently.

The Ameren Companies have proposed, and the ICC has accepted, real time pricing tariffs giving all customers access to hourly market-based prices for electric consumption effective January 2, 2007. Hourly prices will be available to customers through ameren.com. The Ameren Companies believe that customers participating in RTP programs are in a solid position to manage their energy usage in response to prices, which should result in a reduction in peak-load consumption.

In the currently pending delivery service rate cases, the Ameren Companies have agreed to implement a residential real time pricing program that allows a third-party program administrator to 1) develop and implement a program to provide consumer outreach, enrollment, and education concerning RTP to residential customers; and 2) establish, and administer an information system, plus technical and other customer assistance necessary to enable residential customers to manage their electric usage. To encourage residential customer participation in RTP, an incremental metering charge normally accompanying service under Rider RTP will be waived (up to certain limits).

[NOTE: limits are 2000 in 2007, 7000 in 2008, 13,000 in 2009, and 20,000 in 2010 and beyond.]

2. There are a number of mechanisms available to help customers reduce their demand for electricity. Please comment on the economic, operational and reliability costs and benefits associated with the following:

- a. Rate design**
- b. Information and metering**
- c. Demand management**
- d. Distributed generation**

- a. Next to information and education, rate design may be the most cost effective means of helping customers reduce their demand for electricity. Time-differentiated rate pilot programs across the country have shown that customers will adjust their peak demand consumption given the appropriate price signals. Ameren proposes that multiple rate options, in addition to real time pricing, be considered to help customers manage their demand for electricity. Additional rate options for the residential customer class to be considered include:

Critical Peak Pricing (CPP) Programs “spike” prices for a limited number of hours (usually four – six hours). The price “spike” occurs on the same hours for every CPP day. CPP days occur on the days when the market hits extreme highs. Unlike RTP,

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consumers only have to worry about price “spikes” for a limited number of days and hours.

A derivation of the Critical Peak Pricing (CPP) Programs is **CPP with “smart” thermostats**. In CPP w/ “smart” thermostats, customers are subjected to the same price “spikes” as in the CPP programs. The difference is that the utilities have installed “smart” thermostats at the customer’s home.

The “smart” thermostats are similar to programmable thermostats that can be purchased at hardware stores with a couple of exceptions. First, the thermostats can be programmed via the Internet. Second, the utility sends CPP notifications to the thermostats. The thermostats will raise the temperature based on pre-set customer parameters. Therefore, the customer can save money without directly reacting to the CPP notification.

Another type of program is **Air-Conditioning Cycling**. In this type of program, customers allow utilities to install remote controlled cycling switches to their air conditioners. During times of extreme electric prices, the utilities signal the switches to cycle (turn off for a period of time, usually 15 minutes) the customer’s air conditioner. Customers are usually paid a participation fee upfront or per event.

- b. Information and education may be the most simple yet most effective means to help customers reduce their demand for electricity. Knowledge is power. Price is powerful information.
- c. Demand management and rate design are basically one and the same. Demand management would not exist without the appropriate price incentives to encourage it.
- d. With distributed generation or customer owned generation, customers may be reducing their demand for electricity from the IOU but they are substituting generation from the IOU with their own generation resulting in a net zero reduction in demand for electricity. Aside from the economic analysis of whether customer-owned generation may be cost effective, there are other issues to consider with distributed generation. For example, typically distributed generation technology is in the form of internal combustion engines. To the extent that emissions from internal combustion engines may be more harmful than other alternative forms of generation, Illinois may want to consider the development of guidelines around which to consider distributed generation in the context of an Illinois sustainable energy plan.

3. What role can technology play in enabling residential demand response?

Technology has a significant role in enabling residential demand response. Digital information technology has the potential to create a lot of benefits and automate a lot of costly real-time functions which should appeal to residential customers. For example, appliances with grid-friendly control chips can send and receive information about how much energy they are using and they can be programmed to use less energy at specified times during the day. In addition, the Ameren companies have pilot program results that show that residential critical peak pricing rates coupled with technology like “smart” thermostats have the potential to double the amount of demand response relative to a critical peak pricing rate with no technology applied.

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Energy Efficiency/Conservation Initiatives

1. How have residential consumer consumption patterns changed over the last ten years?

- a. Residential consumers continue to acquire more and more electronic appliances and gadgets. How has the increased reliance on electronics altered consumption trends?**
- b. Are there noticeable trends based on income class?**

Our analyses show that residential consumer consumption has been experiencing a considerable amount of growth (approx 1.5% annually on a use-per-customer basis) over the past ten years. Further, our analyses show that this increase can be directly attributed to increases in the use of electric/electronic equipment within the household, such as televisions, computers, stereo, cordless phones, battery charging devices, etc. The growth rate of this energy consumption (not related to heating, cooling, or base energy usage within the household) has been at a rate of 3.5% – 4.0% annually. We do not have any data to support an analysis on the basis of income class; however, we are participating in a demographic survey of the residential class to further understand the drivers behind this growth in consumption.

2. What is the consumption trend for commercial/small industrial customers?

Our analyses show that the consumption per commercial customer has remained relatively constant over the past ten years.

3. How can pricing signals or changes in rate design be implemented to provide a more timely information flow to the customer and how should that timeliness be accomplished? How important is the timing of the information flow? Please explain

Rate design options run the gamut from simple to complex. Simple may be in the form of time-of use rate design options. Complex may be in the form of hourly real time price signals. The jury is still out relative to the question of how important the timing of the information flow is. What may be more important is customer feedback about the impact of their electricity consumption changes relative to price signals. The timing of feedback needs to be as close to real time as possible.

4. What role could digital technologies play in promoting conservation?

- a. What are the benefits of such technologies?**
- b. What are the costs of implementing such technologies?**

The potential for digital technologies has been discussed in prior responses.

- a. Energy efficiency applications associated with digital/electronic technology are becoming more widespread because the technology is developing rapidly; the components are getting smaller in size which ultimately makes them more cost effective. A perfect example of this today is the electronic thermostat which is controllable over the internet. This example goes beyond the traditional programmable thermostat by offering basically unlimited set back periods that could differ 365 days a year.

Along this same concept, smart houses are very close to becoming feasible in the near future. With this approach the customer does not have to interact with the system after it is initially set up. The smart house system is designed, through real-time data collection

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from many inputs, to know when energy efficiency techniques can be applied and not affect the comfort level of the consumer. The homeowner can take a passive role and does not have to understand energy efficiency. The smart house will do all the work, is very efficient, and energy efficiency will just happen.

- b. Since most residential digital technologies are cutting edge, it is difficult to estimate costs at this point. In addition, costs for technologies vary with customer participation. There are volume discounts. The Commission should consider Illinois state wide initiatives that focus on energy efficiency digital technologies where there may be potential to achieve significant volume discounts for all Illinois residential customers who choose to purchase these technologies.

5. Should utility companies be actively promoting energy conservation programs? Why or why not?

a. Who should be the recipients of those programs?

b. How should the costs associated with those programs be recovered?

To the extent these programs or initiatives are utility driven, and in order that they have an opportunity to be successful, the utilities should be able to promote them. The Ameren Companies are mindful of the IDC rules which would otherwise prohibit the marketing, advertising, or promotion of *retail electric supply*. However, energy efficiency and conservation initiatives, by their nature, are not forms of retail electric supply. Therefore, there should be no bar to their promotion. Further, as is the case with any other prudently incurred expense, utilities should be able to recover them in rates. The Ameren Companies recommend that the expense be recovered in delivery service rates from the customer classes to whom the programs are directed.